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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,734	05/25/2001	David Bartlett	08364.0019	3454

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EXAMINER

FLANDERS, ANDREW C

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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02/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/856,734

Applicant(s)

BARTLETT ET AL.

Examiner

Andrew C. Flanders

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61,64-113,116,119,120,122-138 and 147-149 is/are pending in the application.
- 4a) Of the above claim(s) 64-100,109-113,116,119,120 and 122-138 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61,101-108 and 147-149 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 November 2007 has been entered.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

Claims 61, 101 – 108, 147 – 149 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding **Claim 61**, claim 61 claims a spreader and a modulator that mostly closely correspond to elements 39 and 41 of Applicant's disclosure and drawings. Element 39 is considered to be the spreader, as on pages 8 and 9, it is disclosed that a data signal $F(t)$ is input to 39, and "The spread signal $S(t)$ " is output. This output then proceeds to the modulator. However, the claim is limited to the modulator using the data signal (understood to be $F(t)$ before being spread (i.e. spread by 39). The drawings and specification only show modulator 41 operating on the spread signal $S(t)$; thus "after spread."

The remaining claims are rejected as being dependent upon claim 61.
~~imperceptible.~~

Claim 149 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding **Claim 149**, claim 149 claims wherein the carrier is a sinusoid. However, the carrier is described in Fig 15B, which does not show a sinusoid.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 61, 101, 102, 105 – 107 and ¹⁴⁷149 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuytkens (U.S. Patent 6,765,950) in view of Lee (U.S. Patent 5,833,360) ✓

Regarding **Claim 61**, Nuytkens discloses:

A toy system comprising an encoder for encoding a data signal within an audio track to form a modified audio track (Fig. 10 element 10), an electro acoustic transducer for converting the modified audio track into a corresponding acoustic signal (i.e. the speaker in Fig. 10), and a toy responsive to the acoustic signal (Fig. 10 element 18).

Nuytkens discloses a general system w/ a specific coding and decoding of the hidden data, however, Nuytkens recognizes that other methods of spread spectrum technique could be employed; col. 6.

Lee discloses a method for transmitting auxiliary data in audio signals (abstract). Applying the Lee system to Nuytkens discloses in Lee:

(i) a first receiver operable to receive the data signal (82) the data signal defining a sequence of data symbols (see col. 11; specifically $z(l)$), defined by a symbol duration of the data symbols (sampling rate implies symbols have a duration), that is centered

around a first frequency (the data is sampled at a specific rate, thus have a specific frequency);

(ii) a spreader operable to spread the received data signal or a carrier signal modulated with the received data signal to form a spread signal having a signal bandwidth greater than the data signal bandwidth (element 90, which performs the same operations as element 41 as disclosed by Applicant, namely multiplying data symbols by PN noise to produce a "spread signal")

(iii) a modulator (94) operable either:

a) to use the data signal, before being spread by said spreader (interpreted as after per the 112st rejection in order to expedite prosecution), to modulate at least one separate periodic carrier signal, to form a modulated carrier signals such that after spreading by the spreader, a main band of a power spectrum of the spread and modulated signal is centered around a second frequency that is different from the first frequency and that lies within an audible frequency band of 20 Hz and 20kHz (element 94 performs spectral shaping on the signal input to it, this signal will have a second and different center frequency due to the shaping and is within the audible range; this is akin to the recentering by modulator 41 of the spread signal $S(t)$ produced by 39 to 5512.5 as the center frequencies both will be altered; further since the signal is spread, it will inherently have a different center frequency); or

b) to use the spread signal to modulate at least one separate periodic carrier signal such that a main band of a power spectrum of the spread and modulated signal is centered around a second frequency that is different from the first frequency and that

lies within an audible frequency band of 20 Hz and 20 kHz (element 94 performs spectral shaping on the signal input to it, this signal will have a second and different center frequency due to the shaping and is within the audible range; this is akin to the recentering by modulator 41 of the spread signal $S(t)$ produced by 39 to 5512.5 as the center frequencies both will be altered; the device uses $A(z)$ to control the spectral shaping, which is separate from the data symbols or modulated signal);

(iv) a second receiver operable to receive an audio track (80);

(v) a combiner operable to combine the spread and modulated signal with the audio track to generate a modified audio track (100)

(vi) an output operable to output the modified audio track (to channel; fig 5(a)).

The combination further discloses:

and wherein they toy comprises:

(i) an acousto-electric transducer operable to receive and convert the acoustic signal into a corresponding electrical signal (110 of Lee as applied to the decoder of Nuytkens);

(ii) a decoder operable to de-spread and demodulate the electrical signal obtained from said acousto-electric transducer, in order to regenerate the data signal; and (Fig. 6 as applied to the toy of Nuytkens)

(iii) a responder responsive to the data signal (col. 9 lines 7 – 22 of Nuytkens).

It would have been obvious to one of ordinary skill in the art at the time of the invention to set Nuytkens spreading to operate as that taught by Lee. All of this is done using PN code via spread spectrum; col. 14. Nuytkens discloses using spread

spectrum and code generation to modulate signals. Lee discloses using PN codes to spread a data signal to superimpose it over a signal. Since both Lee and Nuytkens are both concerned with hiding data within signals it would have been obvious to try a simple substitution of a known element (Lee's system) to another (Nuytkens) in order to obtain predictable results.

The combination fails to explicitly disclose that the periodic carrier signal has a period smaller than the symbol duration of the data symbols. However, it would have been obvious to one skill in the art at the time of the invention to modify the combination to achieve this feature. The period of the data symbols in Lee is adjustable as it is sampled shown in col. 11. Adjusting it to any one many known sample rates would read upon the claimed limitation.

Regarding **Claim 101**, in addition to the elements stated above regarding claim 61, the combination further discloses:

wherein the responder is operable to generate an output that is discernible to human beings (col. 9 lines 7 – 22 in Nuytkens).

Regarding **Claim 102**, in addition to the elements stated above regarding claim 101, the combination further discloses:

wherein the responder is operable to cause the toy to output an acoustic signal determined using the data signal (col. 9 lines 7 – 22 in Nuytkens).

Regarding **Claim 105**, in addition to the elements stated above regarding claim 101, the combination further discloses:

wherein the responder is arranged to cause the toy to display a visual signal determined using the data signal (col. 9 lines 7 – 22 in Nuytkens).

Regarding **Claim 106**, in addition to the elements stated above regarding claim 101, the combination further discloses:

wherein the responder is operable to cause a movement of the toy in dependence upon a content of the data signal (col. 9 lines 7 – 22 in Nuytkens).

Regarding **Claim 107**, in addition to the elements stated above regarding claim 101, the combination further discloses:

wherein the responder is operable to cause a movement of part of the toy relative to the rest of the toy in dependence upon a content of the data signal (col. 9 lines 7 – 22 in Nuytkens).

Regarding **Claim 147**, in addition to the elements stated above regarding claim 101, the combination fails to explicitly disclose wherein the received data signal is a baseband signal such that the first frequency is 0 Hz. However, it would have been obvious to one skill in the art at the time of the invention to modify the combination to achieve this feature. The period of the data symbols in Lee is adjustable as it is

sampled shown in col. 11. Adjusting it to any one many known sample rates would read upon the claimed limitation.

Claim 103 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nuytkens (U.S. Patent 6,765,950) in view of Lee (U.S. Patent 5,833,360) and in further view of Rose (U.S. Patent 4,480,602).

Regarding **Claim 103**, in addition to the elements stated above regarding claim 102, the combination further discloses:

wherein the responder comprises a processor operable to output the selected sound file via an electro-acoustic transducer (col. 9 lines 7 – 22).

The combination fails to disclose wherein the processor selects one of a plurality of sound files stored in a memory in dependence upon a content of the data signal.

Rose discloses a doll that includes a CPU and a ROM having digital data indicative of speech. Nuytkens discloses that the toy may reproduce a recorded sound or synthesized speech but does not explicitly disclose that this sound is stored within a memory within the toy; col. 14 lines 23 - 29. Applying the memory taught by Rose to the toy disclosed by the combination would read upon the limitation of wherein the processor selects one of a plurality of sound files stored in a memory in dependence upon a content of the data signal.

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teachings of the toy in Rose including the ROM with the stored speech to the toy taught by the combination. One would have been motivated to do so to create an interactive toy that stimulates a child's development; see Rose col. 1 lines 58 - 67 and col. 2 lines 1 - 15.

Claim 104 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nuytkens (U.S. Patent 6,765,950) in view of Lee (U.S. Patent 5,833,360) and in further view of Rose (U.S. Patent 4,480,602) and in further view of Diamond (U.S. Patent 5,314,336).

Regarding **Claim 104**, in addition to the elements stated above regarding claim 103, the combination fails to disclose wherein the memory is detachable.

Diamond discloses a child's toy that includes a detachable memory that stores a variety of sounds; abstract.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination's memory to be detachable as taught by Diamond. One would have been motivated to do so to allow a variety of sounds that may be changed as desired; see Diamond's abstract.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Flanders whose telephone number is (571) 272-7516. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7546. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



SINH TRAN
SUPERVISORY PATENT EXAMINER

acf